

RELATIVE HUMIDITY.

The average percentage of humidity for the month ranges as follows: New England, from 66 at Springfield to 80 at Thatcher's Island; Middle Atlantic States, 56 at Lynchburg to 81 at Atlantic City; South Atlantic States, 64 at Augusta to 77 at Cape Lookout; Gulf States, 62 at Corsicana to 63 at Montgomery and 77 at Galveston; Ohio valley and Tennessee, 56 at Louisville to 64 at Memphis; Lake region, 63 at Toledo to 78 at Buffalo and Milwaukee; Upper Mississippi and Lower Missouri valleys, 56 at St. Louis to 69 at Keokuk; Minnesota and Dakota, 62 at Bismarck to 71 at Breckenridge; Rocky Mt. region, 33 at Denver to 52 at Boise City, Idaho, and 67 at Pioche, Nev.; California, 59 at Red Bluff to 70 at San Francisco. The percentage at high stations averages 66 for Pike's Peak and 92 for Mt. Washington.

WINDS.

The prevailing winds at the Signal Service stations are shown by the arrows, flying with the wind, on chart No. II. The *maximum* velocities, in miles per hour, have been given in the description of the movements of low pressure-areas. On Mt. Washington the highest velocity, 102 miles, occurred on the 21st.

Total Movements of the Air.—The following are the *largest* monthly movements, as recorded at the Signal Service stations, viz: Pike's Peak, 15,086 miles; North Platte, 12,203; Cape Lookout, 12,046; Umatilla, Or., 11,706; Bismarck, 10,862; Cape May, 10,748; Cape Hatteras, 10,744; Breckenridge, 10,620; Dodge City, 10,489; Indianola, 9,853; Sandy Hook, 9,353; Milwaukee, 9,308; Sandusky, 9,299; Barnegat, 9,072. The *smallest* are: Deadwood, D. T., 1,486 miles; Visalia, Cal., 1,665; San Antonio, 1,973; Knoxville, 2,549; Augusta, 2,744; Shreveport, 3,015; Brackettville, Tex., 3,081; Lynchburg, 3,115; Springfield, Mass., 3,232; Boise City, Idaho, 3,496.

VERIFICATIONS.

Indications.—As worked up and issued to the public three times daily, they have been carefully compared with the actual conditions during the succeeding twenty-four hours with the following result, viz: the percentage verified averages 81.8 for New England; 80.5 for the Middle Atlantic States; 79.6 for the South Atlantic States; 76.7 for the East Gulf States; 78.7 for the West Gulf States; 77.4 for the Ohio valley and Tennessee; 80.1 for the Lower Lake region; 78.8 for the Upper Lake region; 77.1 for the Upper Mississippi valley; 76.0 for the Lower Missouri valley. For all the districts the average verified is 78.7 per cent. By elements the percentage verified averages 85.9 for the weather; 81.3 for the wind direction; 74.1 for temperature; 73.5 for the barometer. There were 17 omissions to predict, (5 for weather, 2 for wind direction, 7 for temperature and 3 for barometer,) out of 3,600, or 0.47 per cent. Of the 3,583 predictions that have been made, 219, or 6.1 per cent, are recorded as having completely failed; 176, or 4.9 per cent, as one-fourth verified; 536, or 15.0 per cent, as one-half verified; 576, or 16.1 per cent, as three-fourths verified; 2,076, or 57.9 per cent, as fully verified.

Cautionary Signals.—Out of 191 signals ordered to be displayed, 117, or 61.2 per cent., were justified by subsequent hourly velocities of 25 miles and over at or within 100 miles of the station, but of these 20 were somewhat late, and 16 were ordered down too soon; 74 were not justified.

NAVIGATION.

Stages of Water in Rivers.—In the table on the right side of chart No. III are given the highest and lowest readings of the Signal Service river-gauges for the month, with the dates. At no point was the "danger line" reached during the month.

Opening of Navigation.—*Upper Missouri*, steamer "Big Horn" made the first trip of season from below, passed Lower Brule Agency on the 1st, arrived at Fort Lincoln the 9th and Bismarck the 10th, left Bismarck on the 12th, and reached Fort Benton, M. T., on the 30th; reported river in good condition, and rising rapidly; this is the earliest trip on record. *Lakes*, 4th, Duluth, first large steamer left for lower ports; Charlotte, Lake Ontario, first boat arrived. 6th, Rochester, Canadian steamers commenced running. 7th, Northport, Mich., steamers arrived. 10th, Milwaukee, first arrival from Lower Lakes. 12th, Duluth, Minn., two Canadian steamers arrived, first of season and earliest on record. Marquette, navigation opened by arrival of steam barges, reporting water in Sault St. Marie Canal one foot lower than last year; depth at entrance of basin 11 feet 3 inches. In northern portion of *New England*.—2nd, Bangor, Me., ice passed out of Penobscot river; navigation resumed after 93 days of ice. 14th, Sebago Lake, Me., clear. 13th, Winnepiseog Lake, N. H., clear of ice; one month earlier than usual. *Red River*, at Shreveport, navigation good throughout month, but upper river falling and navigation almost suspended on the 30th.

Canal Navigation.—1st, north branch of Pennsylvania canal opened. 9th, Delaware and Hudson canal opened. 15th, Erie and Oswego canal opened.